

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An electrical pressure washer comprising:
 - a water inlet port for receiving water from a water source;
 - a water outlet port;
 - an electrical motor in fluid communication with the water inlet port and the water outlet port for pressurizing the water received through the water inlet port and ~~pump~~ pumping the pressurized water through the water outlet port;
 - an application wand connected to the water outlet by a hose and having a nozzle for outputting a pressurized water stream;
 - a power cord having a plug at a distal end for connecting AC power to the electrical motor;
 - a diagnostic circuit for detecting a voltage drop over the power cord and determining an operation condition based on the voltage drop;
 - said diagnostic circuit being comprised of a plurality of operation amplifiers to detect a plurality of voltage levels, wherein each of said plurality of detected voltage levels corresponds to an operation condition; and
 - an indication panel having at least one indicator light for indicating the operation condition.
2. (Previously Presented) An electrical pressure washer as in claim 1, wherein the operation condition detected by the diagnostic circuit is that the electrical motor is operational.
3. (Original) An electrical pressure washer as in claim 1, wherein the operation condition detected by the diagnostic circuit is that a water pressure at the water input port is low.
4. (Original) An electrical pressure washer as in claim 1, further comprising a chemical tank for storing a liquid detergent, and wherein the operation condition detected by the diagnostic circuit

is that the pressure washer is in a mode of extracting the liquid detergent from the chemical tame for mixing in the water stream.

5. (Original) An electrical pressure washer as in claim 1, wherein the operation condition detected by the diagnostic circuit is that a thermal protection circuit of the electrical motor is open for protecting the electrical motor from overheating.

6. (Original) An electrical pressure washer as in claim 1, wherein the operation condition detected by the diagnostic circuit is that an AC voltage at the electrical motor is low.

7. (Original) An electrical pressure washer as in claim 1, wherein the plug of the power cord has a ground fault circuit interrupter.

8. (Original) An electrical pressure washer as in claim 1, further including a sensing wire connecting the diagnostic circuit to the distal end of the power cord for detecting the voltage drop over the power cord.

9. (Original) An electrical pressure washer as in claim 8, wherein the voltage drop is measured over a return wire of the power cord.

10. (Currently Amended) An electrical pressure washer as in claim 8, further comprising a ground fault circuit interrupter, wherein the diagnostic circuit further detects whether a breaker of the ground fault circuit interrupter is open.

11. (Original) An electrical pressure washer as in claim 10, wherein the diagnostic circuit further detects whether an AC voltage is present at the plug before the ground fault circuit interrupter.

12. (Currently Amended) An electrical pressure washer ~~as in claim 11~~, comprising:
a water inlet port for receiving water from a water source;
a water outlet port;

an electrical motor in fluid communication with the water inlet port and the water outlet port for pressurizing the water received through the water inlet port and pumping the pressurized water through the water outlet port;

an application wand connected to the water outlet by a hose and having a nozzle for outputting a pressurized water stream;

a power cord having a plug at a distal end for connecting AC power to the electrical motor;

a diagnostic circuit for detecting a voltage drop over the power cord and determining an operation condition based on the voltage drop;

an indication panel having at least one indicator light for indicating the operation condition;

a sensing wire connecting the diagnostic circuit to the distal end of the power cord for detecting the voltage drop over the power cord;

a ground fault circuit interrupter, wherein the diagnostic circuit further detects whether a breaker of the ground fault circuit interrupter is open;

wherein the diagnostic circuit further detects whether an AC voltage is present at the plug before the ground fault circuit interrupter; and

wherein the plug further includes a light emitter on ~~an~~ an input end of the plug and an optical receiver connected to the sensing wire, the light emitter emitting light when an AC voltage is present at the plug.

13. (Original) An electrical pressure washer as in claim 1, wherein the indication panel has a plurality of light emitting diodes operated by the diagnostic circuit for indicating different operation conditions detected by the diagnostic circuit.

14. (Original) An electrical pressure washer as in claim 13, wherein a subgroup of the light emitting diodes are wired in series.

15. (Original) An electrical pressure washer as in claim 14, wherein each light emitting diode in the subgroup has a bypass transistor connected in parallel with said each light emitting diode for selectively diverting current away from said each light emitting diode.

16. (Original) An electrical pressure washer as in claim 15, wherein the diagnostic circuit includes a backup capacitor for powering the diagnostic circuit in absence of AC power, and wherein the backup capacitor is connected in series to the light emitting diodes in the subgroup such that a current for energizing the light emitting diodes also charges the backup capacitor.

17 - 33 (Cancelled)

34. (Currently Amended) An electrical device ~~as in claim 33~~, comprising:

an electrical motor;

a sensing circuit;

a power cord having a plug at a distal end for connecting AC power to the electrical motor, the power cord having a Hot wire, a Return wire, a Ground wire, and a sensing wire connected to the sensing circuit for the sensing circuit to detect a voltage at the plug, wherein the plug further includes a light emitter on an input end of the plug and an optical receiver connected to the sensing wire, the light emitter emitting light when an AC voltage is present at the plug, and

wherein the plug of the power cord has a ground fault circuit interrupter,

wherein the sensing circuit further detects through the sensing wire whether a breaker of the ground fault circuit interrupter is open and whether an AC voltage is present at the plug before the ground fault circuit interrupter;

wherein the sensing circuit senses a voltage drop over the Return wire by detecting the voltage at the plug, the voltage drop being indicative of an amount of current drawn by the electrical motor; and

wherein the electrical device is a pressure washer comprising: a water inlet port for receiving water from a water source; a water outlet port, wherein the electrical motor is in fluid communication with the water inlet port and the water outlet port for pressurizing the water received through the water inlet port and ~~pump~~ pumping the pressurized water through the water outlet port; and an application wand connected to the water outlet by a hose and having a nozzle for outputting a pressurized water stream.

35. (Previously Presented) An electrical device as in claim 34, wherein the sensing circuit detects an operation condition of the pressure washer based on the voltage drop, and wherein the pressure washer further includes an indication panel having at least one indicator light for indicating the detected operation condition.

36. (Previously Presented) An electrical device as in claim 34, wherein the operation condition detected by the sensing circuit is that the electrical motor is operational.

37. (Previously Presented) An electrical device as in claim 35, wherein the operation condition detected by the sensing circuit is that a water pressure at the water input port is low.

38. (Previously Presented) An electrical device as in claim 35, wherein the pressure washer further includes a chemical tank for storing a liquid detergent, and wherein the operation condition detected by the sensing circuit is that the pressure washer is in a mode of extracting the liquid detergent from the chemical tank for mixing in the water stream.

39. (Previously Presented) An electrical device as in claim 35, wherein the operation condition detected by the sensing circuit is that a thermal protection circuit of the electrical motor is open for protecting the electrical motor from overheating.

40. (New) A method for determining the operational condition of a pressure washer, comprising the steps of:

powering a pressure washer by connecting a power cord having a distal end to an AC power source; said pressure washer comprising an electric motor and a diagnostic circuit; said diagnostic circuit consisting of a plurality of operational amplifiers, said operational amplifiers electrically connected to said power cord;

measuring a first voltage over the power cord; and

corresponding said measured first voltage over said power cord with a contemporaneous operating condition of said pressure washer; and

indicating the contemporaneous operating condition by illuminating one or more indicator lights located on said pressure washer.

41. (New) The method of claim 40, wherein said step of measuring said voltage over the power cord includes using one or more of said plurality of said operational amplifiers.

42. (New) The method of claim 40, wherein said step of illuminating one or more indicator lights located on said pressure washer includes utilizing one or more of said plurality of said operational amplifiers to operate said indicator lights.

43. (New) The method of claim 40, further comprising the steps of: measuring a second voltage over the power cord at a location proximate to said electric motor and corresponding said measured second voltage with a contemporaneous operating condition of said pressure washer by indicating the contemporaneous operating condition by illuminating one or more indicator lights located on said pressure washer.

44. (New) The method of claim 40, further comprising the steps: providing a light emitter on an input end of the plug and an optical receiver having an output, the light emitter emitting light when an AC voltage is present at the plug; measuring the output of the optical receiver; and corresponding said measured output of the optical receiver with an operational condition of said pressure washer.

45. (New) A method for determining the operational condition of a pressure washer, comprising the steps of:

connecting a pressure washer with a power cord having a distal end to an AC power source; said power cord having a voltage over the power cord when connected to said AC power source;

said pressure washer having an electric motor, a diagnostic circuit and a plurality of indicator lights; said diagnostic circuit comprising a plurality of operational amplifiers, said operational amplifiers electrically connected to said power cord;

comparing said voltage over said power cord to a plurality of reference voltages;

indicating the operational condition of the pressure washer by illuminating one or more indicator lights based on the comparison of said voltage over said power cord to the plurality of reference voltages.

46. (New) The method of claim 45, wherein said step of comparing said voltage over the power cord to a plurality of reference voltages includes utilizing a plurality of said operational amplifiers.

47. (New) The method of claim 45, wherein said step of illuminating one or more indicator lights located on said pressure washer includes utilizing one or more of said plurality of said operational amplifiers to operate said indicator lights.